UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,747	12/08/2003	Robert M. Koehl	105196-012000	2653

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EXAMINER
DWIVEDI, VIKANSHA S

ART UNIT	PAPER NUMBER
3741	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 December 2008_.

2a)☐ This action is **FINAL**.　　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _28 and 87_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _28 and 87_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

12/4/2008 has been entered.

Information Disclosure Statement

Applicant should note that the large number of references in the attached IDS have

been considered by the examiner in the same manner as other documents in Office

search files are considered by the examiner while conducting a search of the prior art in

a proper field of search. **See MPEP 609.05(b).** Applicant should point out any

particular references in the IDS which they believe may be of particular relevance to the

instant claimed invention in response to this office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 28-31 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Markuson et al. (U.S. Patent number 4,767,280) in view of Struthers (U.S. Patent

number 6,481,973) McDonough (U.S. Patent number 6,227,808).

Markuson et al. discloses a control system for pumps for controlling various system

parameters and automatically controlling the pumping unit (Column 3, lines 33-37). It

discloses an electric motor (2), a microprocessor (4) and a controller (10), figure 1

shows the components of the control system. The microprocessor (4) utilizes a digital

input to calculate limp mode/underload conditions of the system (Column 4, lines 23-

26). The controller (10) can control the motor (2) upon detection of various

predetermined conditions. The motor can be slowed down, shut down or restarted as

needed (Column 6, lines 59-63). Figure 2 is an illustration of operating conditions being

monitored by the controller. It shows the limp mode/underload (18, near 30) conditions

with respect to the normal run as shown in Figure 2. Figure 2 also shows that the motor

is turned off after running in limp mode/underload situation (See circa element number

30). Thus, providing the teaching for finally, shutting down the motor following limp

mode. Markuson et al. does not disclose the reduction of the operating frequency of the

motor nor the specific use of current and limp current limit setting—although he does

teach measuring the power to the motor and thus a limp power limit setting as opposed

to a specific limp current limit setting. As is consistent with the applicant's specification,

the terms "limp mode" and "limp current limit" are interpreted to be a state of pump

motor operation at reduced power or speed (reduced voltage and current to the motor),

and the limit at which this state occurs, respectively. As is, if the sensed current,

temperature, or voltage exceeds a predetermined limit value, (which constitutes a limp current, voltage, or temperature limit), the control circuit reduces speed of the motor by reducing power. The product of current and voltage equals power, it is obvious that the speed is reduced by reducing the power to the motor, i.e. reducing voltage or current. Struthers specifically teaches the control of the frequency (Column 5, lines 9-30) and using the current as the parameter to control the motor. It would have been obvious to use operating frequency as one of the controlling parameter as it is easy to calculate and monitor and is accurate. It would have been obvious to one of ordinary skill in the art to employ the current and a limp current limit setting as a well known component of limp power, in order to control the motor using a known equivalent in the art. Struthers in view of Markuson et al. does not teach a pump for use within a pool and a spa. McDonough teaches a a pump for use within a pool and a spa (Col. 2 ll. 39-51).It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method for operating motor of a pump as disclosed by Struthers in view of Markuson et al. in view of McDonough to control and detect conditions in the pool or a spa (Summary of invention).

Response to Arguments

Applicant's arguments filed 12/4/2008 have been fully considered but they are not persuasive. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In this case Markuson et al. (U.S. Patent number 4,767,280) in view of Struthers (U.S. Patent number 6,481,973)

McDonough (U.S. Patent number 6,227,808) teaches the claimed invention. It is not

required that the prior art disclose or suggest the properties newly-discovered by an

applicant in order for there to be a prima facie case of obviousness. Moreover, as long

as some motivation or suggestion to combine the references is provided by the prior art

taken as a whole, the law does not require that the references be combined for the

reasons contemplated by the inventor. The test for obviousness is not whether the

features of a secondary reference may be bodily incorporated into the structure of the

primary reference; nor is it that the claimed invention must be expressly suggested in

any one or all of the references. Rather, the test is what the combined teachings of the

references would have suggested to those of ordinary skill in the art. In this case

Markuson et al. discloses a control system for pumps for controlling various system

parameters and automatically controlling the pumping unit (Column 3, lines 33-37). It

discloses an electric motor (2), a microprocessor (4) and a controller (10), figure 1

shows the components of the control system. The microprocessor (4) utilizes a digital

input to calculate limp mode/underload conditions of the system (Column 4, lines 23-

26). The controller (10) can control the motor (2) upon detection of various

predetermined conditions. The motor can be slowed down, shut down or restarted as

needed (Column 6, lines 59-63). Figure 2 is an illustration of operating conditions being

monitored by the controller. It shows the limp mode/underload (18, near 30) conditions

with respect to the normal run as shown in Figure 2. Figure 2 also shows that the motor

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reducing power. The product of current and voltage equals power, it is obvious that the

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use operating frequency as one of the controlling parameter as it is easy to calculate

and monitor and is accurate. It would have been obvious to one of ordinary skill in the

art to employ the current and a limp current limit setting as a well known component of

limp power, in order to control the motor using a known equivalent in the art. Struthers

in view of Markuson et al. does not teach a pump for use within a pool and a spa.

McDonough teaches a a pump for use within a pool and a spa (Col. 2 ll. 39-51).It would

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method for operating motor of a pump as disclosed by Struthers in view of Markuson et

al. in view of McDonough to control and detect conditions in the pool or a spa (Summary

of invention).

Also with regard to claim limitation within up to about 30 seconds McDonough teaches a

control circuit 26 for use with a pump 20 for a spa system. The control circuit 26

includes a pressure sensor 70 to monitor pressure at- the input side of the pump. The

control circuit 26 also includes an on/off switch 40 which can be activated by a user to

turn the pump 20 on. Once the pump 20 is turned on, a baseline pressure is acquired.

If, during operation, a decrease or increase in pressure from the baseline pressure

occurs, **the pump 20 immediately shuts** off (which is within 30 seconds). *McDonough,*

Abstract; col. 3, lines 51-52; col. 4, lines 17-22; col. 7, lines 11-15; col.7, lines 43-50.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to VIKANSHA S. DWIVEDI whose telephone number is

(571)272-7834. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, MICHAEL CUFF can be reached on 571-272-6778. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vikansha S Dwivedi/
Examiner, Art Unit 3741

/Michael Cuff/
Supervisory Patent Examiner, Art Unit 3741